



MDC Resource Science

Assessing angler exploitation rates for blue catfish and flathead catfish with reward tags in Truman Reservoir

Science Notes



Assessing angler exploitation rates for blue catfish and flathead catfish with reward tags in Truman Reservoir

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Introduction

MDC suspected that blue catfish *Ictalurus furcatus* and flathead catfish *Pylodictis olivaris* were being heavily exploited by anglers in 55,600 acre Harry S. Truman Reservoir in west-central Missouri. A reward tag study was initiated in 2004 to determine angler exploitation rates for both species.

Goal:

Determine annual and cumulative angler exploitation rates for blue catfish and flathead catfish to assess whether these populations are being over-exploited (i.e., mean annual exploitation >0.20 for a long lived species).

Three hundred (300) quality sized blue catfish (≥ 19 ") and 194 flathead catfish (≥ 20 ") were equipped with Carlin dangler reward tags in 2004 and 2005, respectively. All reward tags displayed a reward value of US\$50. Reward tagging was accomplished at multiple locations in the upper, middle, and lower sections of the reservoir to avoid concentration of tagged fish. Blue catfish reward tag locations are shown in Figure 1.

A 5-year post-tagging estimate of annual exploitation and cumulative exploitation was calculated using a 25% annual correction for angler non-reporting and a one-time correction for tag loss.

Blue Catfish

The estimated annual exploitation rates for blue catfish ranged from 0.26 in year one to 0.33 in year two, with a mean of 0.288 (Table 1). The estimated cumulative exploitation rate at five years post-tagging was 0.817.

Flathead Catfish

The estimated annual exploitation rates for flathead catfish ranged from 0.00 in years four and five to 0.04 in year two, with a mean of 0.018 (Table 1). The estimated cumulative exploitation rate at five years post-tagging for flathead catfish was 0.088.

Management Findings:

Mean annual exploitation over a five year period was 0.288 for blue catfish and 0.018 for flathead catfish, clearly showing the difference in angler exploitation rates for these two species.

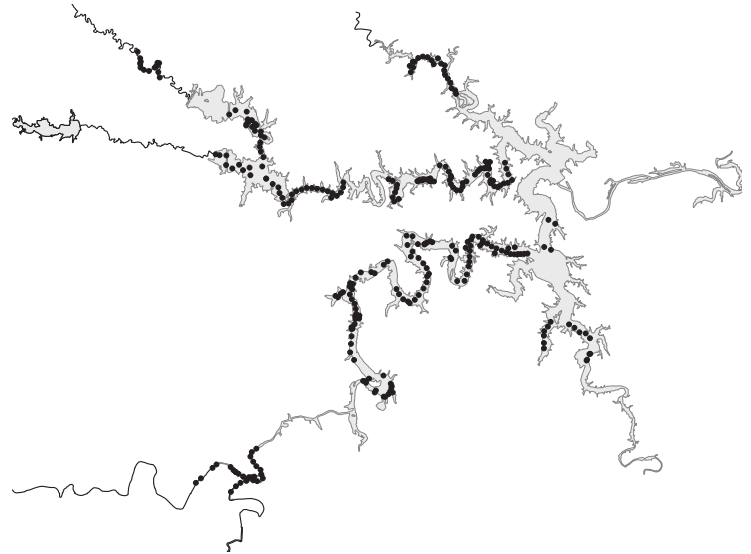


Figure 1. Locations of 300 blue catfish tagged with Carlin dangler reward tags at Truman Reservoir in 2004

Species	Year 1	Year 2	Year 3	Year 4	Year 5	Mean	Cumulative
Blue Catfish	0.26	0.33	0.30	0.29	0.26	0.288	0.817
Flathead	0.03	0.04	0.02	0.00	0.00	0.018	0.088

Table 1. Annual and cumulative exploitation rates for blue catfish and flathead catfish at Truman Reservoir

Management Implications

The annual exploitation rate for blue catfish that we documented in this study is considered high for a long-lived sportfish species. These results, along with results from a three year volunteer angler creel survey, and three years of baseline jugline sampling at Truman and Lake of the Ozarks have been foundational in the agency effort to propose more restrictive blue catfish regulations at both reservoirs.

Acknowledgements:

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